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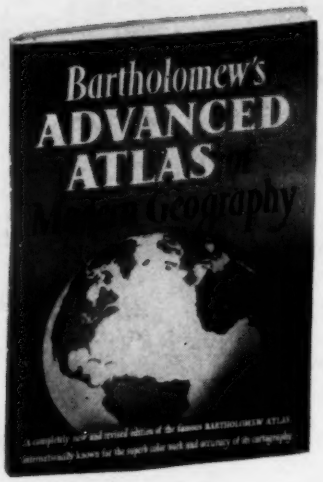

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Mrs. Goodman is Head of the Acquisitions Section, Map Division, Library of Congress. At present she is program chairman of the Geography and Map Group, Special Libraries Association, Washington, D.C. Chapter, and co-editor of the *Bulletin* of the Geography and Map National Division.

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Mr. Kramer, who is doing graduate work at the University of California at Berkeley, prepared this manuscript in response to our suggestion in the September, 1951 issue that teachers pool their information about inexpensive teaching aids. We hope others will follow his example.

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Dr. Barton was a rural school teacher, high school supervisor, and Head of the Geography and Geology Department of the Southern Illinois Normal University. He is now Professor of Geography at Indiana University.

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Dr. Crisler, Assistant Professor of Geography at Washington University, St. Louis, was recalled from the reserves by the Army and has been on military leave from the university since October, 1950. Mr. Hunt is now working at the Aeronautical Chart Plant in St. Louis as a Photogrammetric Engineer. He plans to complete his work for a Masters degree at Washington University in 1952.

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VOLUME LI JANUARY, 1952 NUMBER 1

RURAL SETTLEMENT TYPES OF INTERIOR PUERTO RICO: SAMPLE STUDIES FROM THE UPPER LOIZA BASIN

JOHN P. AUGELLI
University of Puerto Rico

The fabric of rural settlement in interior Puerto Rico is becoming increasingly unstable. Under the influence of an improved highway net, a strong country-to-town movement, and growing emigration to the United States, old settlement types are being modified and new types are beginning to make their appearance. Transition from old patterns to new ones seems to be the current order.

The upper Loiza basin from which the sample units for this study were taken may be considered a fairly representative type-area of Puerto Rico's highland interior (Fig. 1). It is a mountainous region of roughly 50 square miles located in the east-central sector of the island. Population densities in the area are high, averaging over 500 persons per square mile. Agriculture based upon the the production of tobacco, food crops, and sugar cane is the only important occupation. Poor soils, eroded slope land, and

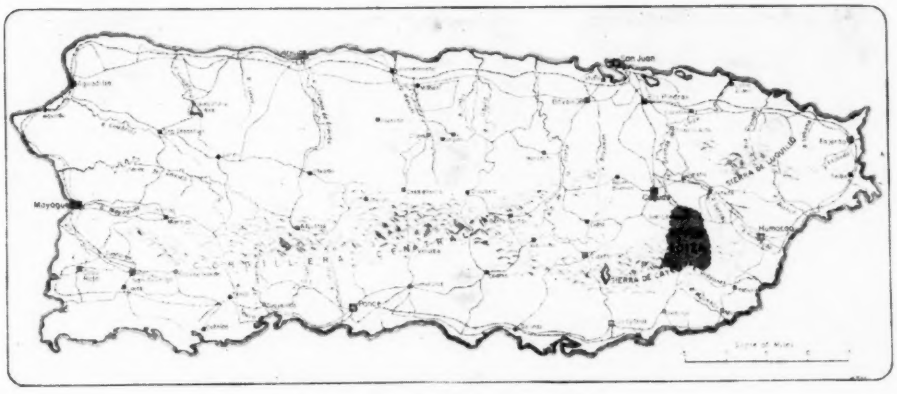

FIG. 1. Puerto Rico Place Map.

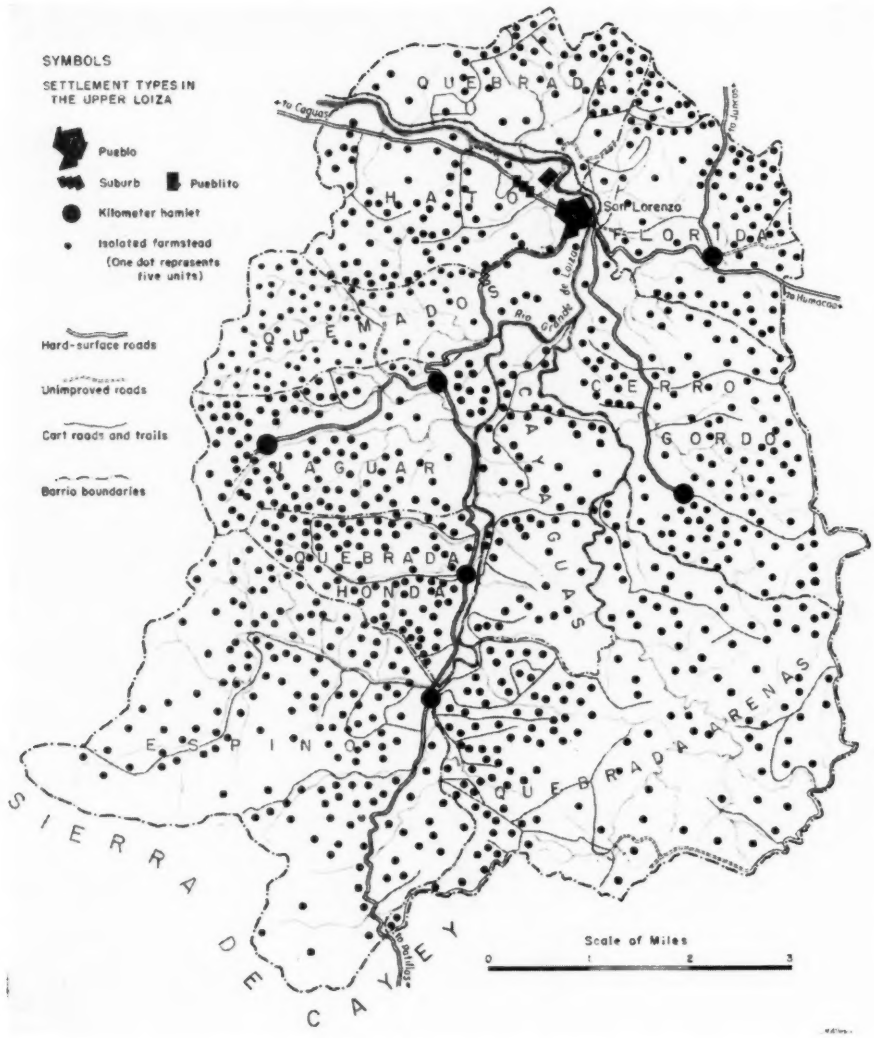

Fig. 2. Settlement Types in the Upper Loiza.

primitive farming practices result in low yields, and most of the farm families in the basin have an annual income of considerably below 300 dollars.

Settlement Types

No less than six settlement types can be classified in the upper Loiza. These are: 1. the hacienda grouping; 2. the isolated farmstead; 3. the pueblo or town; 4. the kilometer hamlet; 5. the pueblito or little town; and 6. the "suburb" (Fig. 2). The first three trace

their development to the eighteenth and early nineteenth centuries. They represent the traditional modes of rural settlement in the Puerto Rican highlands. The remaining three have developed in the last few decades. They are still in the initial stages of growth, and their appearance in rural Puerto Rico is associated with the increasing use of the automobile and the socio-economic instability created by the Depression and the Second World War.

THE HACIENDA GROUPING

The hacienda settlement type is the oldest in the basin. It had its origins in the era of large landed estates of the seventeenth and eighteenth centuries. The pattern consisted of a central *residencia* occupied by either the owner or his manager, the slave quarters, and the cabins of the sharecroppers. More important than the pattern of settlement, however, were the economic and social relations between the owner's residence and the auxiliary units. The paternalistic system so common in all of Latin America was the bond which held the group together. As long as this system was left intact the hacienda remained as an important mode of settlement.

This settlement type functioned under the old order until the early decades of the twentieth century. Even after the slaves had been freed (1873) the practice of retaining *agregados* (sharecroppers who are permitted to build a house on the land) helped to retain the old pattern. However, when increasing labor costs and the speedier tempo of commercial agriculture destroyed the old paternalistic relation between owner and farm hand after the American occupation, the hacienda grouping lost most of its functional importance.

Today one may see a trace of the old pattern in the location of the cabins of the sharecroppers on the large farms, but the function is not the same. The residence is no longer the focus of interest; the paths from the cabins now lead primarily to the highway store; the paths to the big house have almost disappeared.

THE ISOLATED FARMSTEAD

The isolated farmstead characterized by the *bohío,* (one-room shack or cabin), surrounded by a few cuerdas of cultivated land is the most common settlement type of the upper Loiza and of interior Puerto Rico (Fig. 3). It is the type which determines the leading pattern of distribution, namely the dispersed rural. Nowhere on

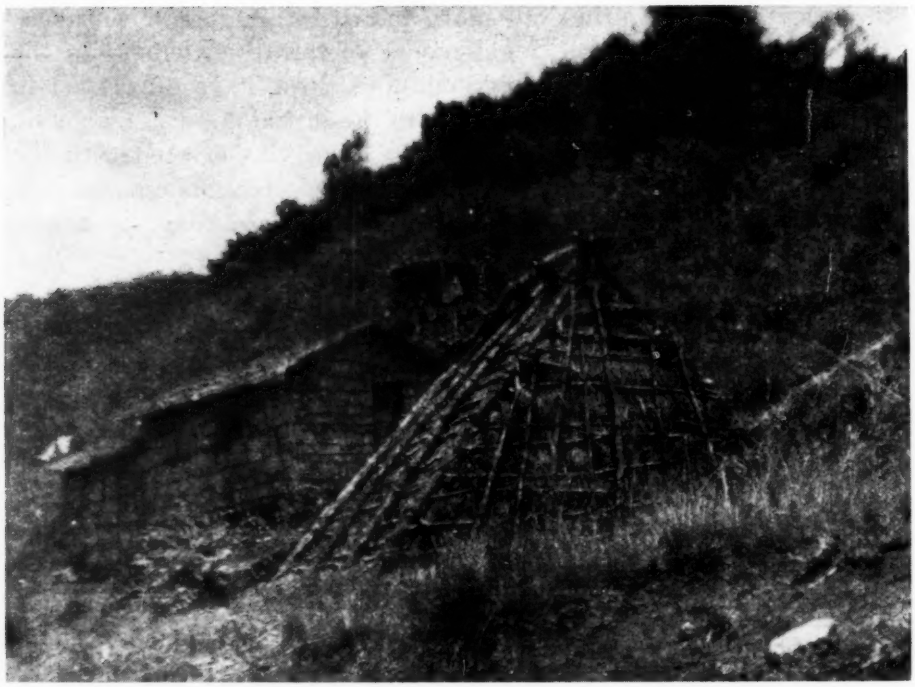

FIG. 3. Isolated Farmhouse and Hurricane Shelter.

the slopes or the crest of the mountains does one see an agglomeration of houses. Even the country store is generally an isolated unit. Settlement grouping occurs only along the highways on the valley bottoms.

Rural population is very sparse on the better soils, but is generally dense elsewhere. Residential buildings, unless those of rich land-owners, seldom occupy level land. The typical *bohío* is located on a rock outcrop or on a patch of very poor land on the middle slope or crest of the mountains. The demand for good land is so strong that even the few square feet for the huts cannot be spared.

The isolated farmstead gained a dominant importance in interior Puerto Rico early in the history of settlement. Altho the original type on the large land-grants of the eighteenth century was probably the hacienda, the invasion of the grants by squatters and small owners soon made the isolated farmstead the leading type. It has retained its leadership to this day.

The question is often asked, "Why did a people of Spanish culture with a tradition for living in agricultural villages, and who came originally from insular urban centers such as San Juan,

establish the isolated farmstead as the dominant settlement type?" The explanation seems to be partially in history and partially in topography. By the time the first settlers reached the highland interior in the eighteenth century, the danger from Indian attack had already disappeared. Because of interior location, there was little danger of attack from pirates who haunted the coastal waters. Thus the defense motive for urban agglomeration did not exist. The rugged mountain topography from the very start discouraged the practice of living in agricultural villages and going to the fields daily. Inevitably much of the land would have been located several hours of arduous travel from the village. To offset this, the almost subsistent farmer who had little need for urban services preferred to live in an isolated *bohío* on his own land.

Once established this settlement type has remained the most common. An occasional trip to town was sufficient to satisfy the few needs of the *jíbaro* (a Puerto Rican country man or peasant). It was only when the American occupation gave greater emphasis to commercial agriculture and the twentieth century brought in the automobile and new roads that the isolated farmstead began to lose some importance, and new settlement types began to emerge. Yet even in 1950 almost 75 per cent of the population in the interior live in remote *bohíos*.[1]

Currently the word "isolated" is becoming more relative. Every *bohío* is connected by foot path often wide enough for jeeps and other hardy vehicles, to a main road. Electrification is proceeding rapidly, and within the next ten years most of the homes in the interior will have its benefits.[2] Thanks to an ambitious government program for highway improvement (especially in connection with election years) hard-surfaced roads are pushing further and further into the mountains.

THE PUEBLO

The only settlement unit of the *pueblo* type which has developed in the upper Loiza is San Lorenzo. The town is located in the crook of a meander in the Loiza River roughly 2.5 miles from

[1] Of the 1,654 farmsteads reported for the upper Loiza in the 1940 census, 126 were located on macadam roads, 3 on other roads, 103 were less than a half kilometer from a highway and 1,212 were located more than one kilometer from the nearest highway.

[2] In spite of low income, electrification is possible because of the high density of population.

the northern end of the basin and 9.5 miles from the southern limits. Its site occupies a point where the Loiza River ceases to be a narrow-valley stream and begins to flow into the broad lowlands which form the Caguas Valley.

There is little about the internal structure of San Lorenzo or most towns in interior Puerto Rico which resembles American towns of similar size and function. The observer passing thru the town sees a compact group of houses and huts standing flush with the narrow streets and almost touching one another. Few houses even of the wealthier citizens have spacious lawns or patios. A dense population, costly land, and a low standard of living combine to cause a congestion which would rarely be found in a small American rural town.

The most sought-after residences are those directly on the plaza. Contrary to the trend in most American towns, the periphery is occupied by the poorest residences. In Puerto Rico the blighted section of the town is on the outer edges, and the semi-rural slum is much more common than a purely urban one.

Land values in San Lorenzo are high, considering the decadent condition of the town and its tributary area. Land everywhere in the town is priced by the square meter, and not even the cheapest building lot can be obtained for less than fifty cents a meter. In the case of the poorest houses, it often happens that the building lot is worth more than the structure. Cost of land in the most desirable sites of the town may go over ten dollars per square meter.

From its earliest history, San Lorenzo's leading function has been that of service center for the surrounding agricultural area of the upper Loiza. From time to time since the American occupation it has also been the center of a cigar industry. Today both these functions continue but the latter is rapidly dying out. Almost the entire labor force of the town is employed in one of four kinds of establishment: 1. retail store or service shop; 2. tobacco *fábrica;* 3. cigar *chinchale;* and 4. the diamond factory. Of these, the second is by far the most important.

A tobacco *fábrica,* of which there are five in the town, is a combination factory and warehouse. After the tobacco has been dried on the farm, it is brought to the *fábrica* to be fermented, sorted and stored until ready for shipment. The building is large, and during the height of the season may employ as many as 500

workers.[3] At one time the *fábricas* also manufactured cigars for the American trade but now they handle only leaf tobacco which is exported to the United States.[4]

The second largest employers in San Lorenzo are the retail stores and service shops catering to the farmer. Before the advent of automobile transportation, the list of services and retail merchandise available in the town was larger. But now with Caguas less than a half hour away and with the metropolitan area within an hour's ride, people prefer to do much of their buying in the larger centers.

The diamond factory and the nine *chinchales* together employ less than 100 people. The former which employs 45 workers is engaged in polishing diamonds. It belongs to a large New York diamond firm which was attracted to Puerto Rico by low labor wages. The diamonds are sent from New York and returned there after polishing.

The *chinchales* are all that remain of the town's cigar industry. These are small cigar factories generally occupying a single room and employing from one to five people. They manufacture only for the insular market, using the tobacco of the basin as filler and importing wrapper from Florida, Maryland, Connecticut and other states. The cigars are all hand-made and of low cost, selling anywhere from two to twenty cents each.

The decline of tobacco in general and of the cigar industry in particular, the declining importance of the service function because of the automobile, and the exodus of people from the basin are causing losses of population in San Lorenzo. During the last fifteen years while the population of the basin as a whole has been increasing that of the town has been decreasing. The future of the town depends, of course, upon the future of its tributary area. Currently with the economy and population patterns of the tributary area in a state of flux, the town reflects a similar condition.

THE KILOMETER HAMLET

In order to cater to the simple necessities of the dispersed rural population in the upper Loiza, two units have developed.

[3] Most of the workers are women who receive a minimum wage of 25 cents an hour.

[4] The *fábricas* are owned by large tobacco interests both local and American. The tobacco eventually finds its way to the United States where it becomes filler for such popular American cigars as "White Owls" and "Dutch Masters."

FIG. 4. Solitary Country Store.

One of these is the solitary country store (Fig. 4) and the other is what is here termed the kilometer hamlet (Fig. 5). The former consists of a one-room structure. It may be found anywhere on the numerous mountain trails, but most often where one or more

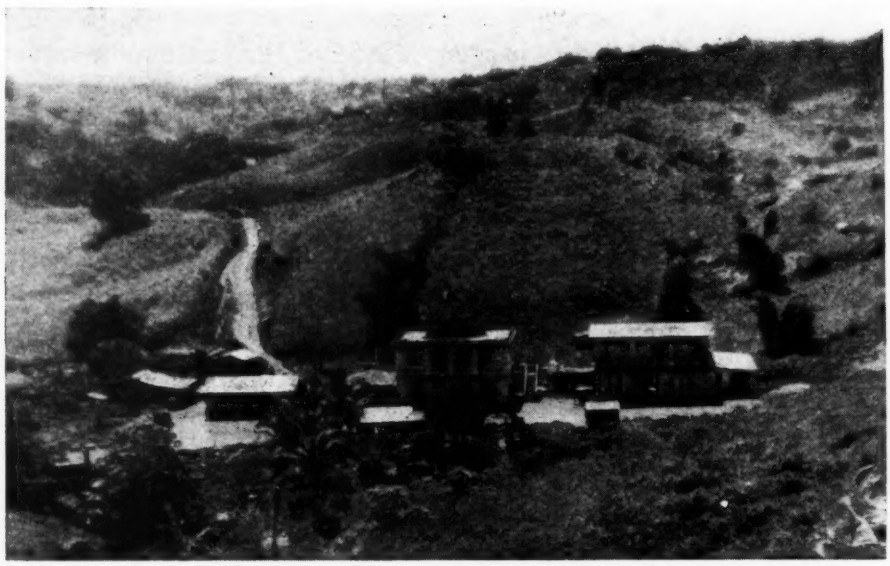

FIG. 5. A Kilometer Hamlet on the San Lorenzo-Patillas Road.
Note the trail leading into the highlands.

of these trails joins one of the highways. The latter consists of at least two store units together with residences for two or more families (the store-owners), and occasionally it may also include a school or church. It is always found on a main highway either at a natural focus of trails or where the highway terminates (Fig. 2).

The term kilometer hamlet was applied to these tiny agglomerations for two reasons: 1. They seem to occur at intervals along the principal highways; 2. The people themselves give them such designations as "el cinco" or "el diez" meaning the grouping at the five or the ten kilometer marker. In Puerto Rico the distance between towns is marked at 100-meter intervals with white stone markers.

At the time of investigation there were six of these hamlets in the Loiza, and more seemed to be in the process of development. Three of these are on the San Lorenzo-Patillas road; one at kilometer 10, one at kilometer 14, and the third at the junction of the Jaguar road (Fig. 2). Of the remaining three, one is approximately at the end of the Cerro Gordo road, another is at the intersection of the Juncos-Humacao-San Lorenzo roads, and the third is at the end of the Jaguar road.

Viewing the development of these agglomerations not only in the upper Loiza but in the entire highland region, certain principles seem to stand out. Other factors being equal, a hamlet will develop at approximately every five kilometers along an automobile highway.[5] This seems to be about the maximum distance that the *jíbaro* will walk to buy such necessities as rice, beans, and khaki work clothes. Usually, one will find two or three solitary country stores between hamlets. These, however, are always smaller than the hamlet stores and carry a smaller variety of goods. As has already been mentioned, both the solitary store and the hamlet are located at accessible points, generally where secondary roads and trails join a highway.

Practically every rural school (or church) which is located on an auto road has a hamlet associated with it. Usually the school (or church) is built first and the hamlet develops to cater to the wants of students (or parishioners). The location of the church or school

[5] For example, on the road leading southward from Caguas to San Lorenzo and to Patillas, one hamlet has developed at a point five kilometers from Caguas. This is followed by the town of San Lorenzo about five kilometers further south. Then there is a hamlet at the junction of the Jaguar road at 4 kms. from San Lorenzo, a second hamlet at km. 10, a third at km. 14 in Barrio Espino, a fourth at km. 19 in Barrio Guayabota of Yabucoa, and finally, the town of Patillas about six kilometers further south.

is further influenced by the accessibility of the highway to the surrounding countryside. Hamlets also seem to develop where a partially constructed automobile road ends and a trail joins it to continue into the highland (break of bulk).

The origin of the hamlet is recent, and it seems to be intimately related to the highway and the automobile. None of the units in the Loiza had developed prior to the automobile. Apparently, before their development the *jíbaro* went into town more often or used less "store goods." The trend toward a more commercial economy which coincided with the coming of the automobile in Puerto Rico also seems to have contributed to the hamlet development. With more cash available, the *jíbaro* bought more of his necessities, and created the need for more stores.

Perhaps the best type example of a hamlet is the one located at kilometer 10 on the San Lorenzo-Patillas road (Fig. 2). This unit developed after the highway to Patillas had been completed in 1939. The first structure built has a country store located where one trail leading down from Barrio Quebrada Honda and a second trail from Barrio Cayaguas forded the Loiza and joined the highway. Soon after the store, a large rural school was built nearby. This school includes all grades up to senior high school, and it supplies educational facilities to all the southern half of the basin. In response to the needs of the school children as well as to the needs of the surrounding countryside, new stores came into existence. Currently, the hamlet consists of four stores, more than a dozen residences, a school, and a church which was built recently by American Roman Catholic priests. At the hamlet stores the *jíbaro* can obtain all his necessities, and most of the people do not find need for going into San Lorenzo more than a few times a year.

THE PUEBLITO

In certain respects the *pueblito* seems to be peculiar only to San Lorenzo, but in others it is a type common to all Puerto Rican cities and towns in the last 20 years of development (Fig. 6). It is peculiar to San Lorenzo in its method of origin and its independent location. It is common to all towns of the island in that it is a low class urban growth resulting from the country-to-town movement which has occurred in Puerto Rico in the last 10 to 20 years. The most widely known of these semi-slum *pueblito* type of settlement is *El Fanguito* in San Juan. Here squatters

FIG. 6. Street Scene in Barriada Roosevelt near San Lorenzo.
From here even New York's Spanish Harlem looks good.

coming from the rural areas have developed a shanty town covering dozens of acres on the lagoon mud flats.

San Lorenzo's *pueblito* officially called the *Barriada Roosevelt* was founded in 1935. In that year a flood of the Loiza destroyed numerous *bohíos* which occupied the flat lands adjoining the river north and east of the town. To provide safer house sites for those who had lost their homes, the municipality purchased eight cuerdas of elevated land on a farm located about a quarter of a mile north of the town. Later purchases added to the area, and the agglomeration grew from 36 houses in 1935-36 to almost 400 in 1950. While the town has been losing population, the *pueblito* has been gaining constantly, and currently its population is estimated at 3,000 souls. This is due to the fact that people moving in from the country can obtain a building site gratis in the *pueblito,* but they have to pay a high price for one in the town. The *municipio* tried to sell small building lots in the *barriada,* but the Insular Planning Board would not permit it because its requirements for construction could not be met.

The *pueblito* has one function. This is to serve as dormitory for the excess population coming from the rural areas to the town. A large percentage of the town's labor force lives here. The women and girls of the *barriada* work in San Lorenzo's tobacco *fábricas* and as domestics in upper class homes. The men work in the cane fields and in other agricultural labor when these are available. At

other times they do the heavy work of the tobacco industry and the stores in town. To supplement these jobs, the men sharecrop tobacco and food crops on the surrounding farms; they keep a few animals and a miserable garden patch around their houses; they work at occasional public works projects. When all this is not sufficient, as often it is not, they migrate to New York, hire themselves out as agricultural workers to farmers in the United States, or they try to get public relief.

Practically speaking, the *pueblito* is an integral part of the town. But there are enough differences between the two to warrant the distinction as to settlement types. These differences are based on origin, location, form of development and function. Between the two there is more than a quarter mile of meadows and fields which breaks the urban continuity. The people themselves refer to one as the *pueblo* and the other as the *pueblito*. The latter further differs from the town because of its unique function as dormitory, the uniformly low quality of its housing, and its relation to the recent country-to-town movement.

THE SUBURB

This is the most recent of the settlement types to develop in the upper Loiza. Its origin goes back less than ten years, and as yet, it has not grown sufficiently to have acquired a distinctive designation. To date, this suburban development includes about a dozen houses with more under construction. Like the *pueblito* it is essentially a part of the town, but it has sufficient distinctiveness to be classed apart. It, too, is separated from the town by rural land; it has only a single function; the cost of its houses is uniformly high; and its origin is recent.

The evolving suburb in San Lorenzo, as in other Puerto Rican municipalities, seems to be due to several factors; 1. American influence on the upper classes; 2. the widespread use of the automobile; and 3. the expense and inconvenience of living in the center of the town. For the first time in the history of settlement, people with better than average incomes are leaving the "plaza" and going to the "campo." The automobile which is extremely difficult to keep around the crowded plaza is ideal for the suburb. People who had never thought in terms of fresh air and spacious lawns now seem to have read enough American magazines to appreciate them. In addition, land prices in the suburban zones are often considerably cheaper than they are in town.

The San Lorenzo suburb is a string-like development on the Caguas road about a half mile from the town. Its location seems to have been strongly influenced by the highway to Caguas and San Juan. To date, all the houses border on the road, altho there are plans to develop back from the road in the near future. The houses are all concrete structures averaging about $10,000 in price. The cost of land (included in the average value of houses) runs between two and three dollars per square meter. The people who live here are for the most part professional and business men who work in San Lorenzo. There is only one store in the general vicinity, and this was established there before the suburb developed.

RECENT MAPS OF INTEREST TO TEACHERS OF GEOGRAPHY*

MARIE CLECKNER GOODMAN
Library of Congress

Many maps of interest to geography teachers have been published within the last few months. Included are a number of Government maps such as new sheets in the Geological Survey shaded relief series and maps on conservation and land use. Special subject maps on transportation, economics, geology, and ethnology recently published by commercial firms are also noteworthy. Few foreign maps are included because those published outside the United States are not readily available to the general public.

UNITED STATES MAPS

The Geological Survey has issued several new sheets in its series of shaded relief maps. Skillful use of the air brush has created the illusion of actual heights and depths. This technique, by making the physical features more apparent, increases the effectiveness of topographic maps for teaching purposes.

State base maps with or without shaded relief have been published this year for New Jersey, Massachusetts-Rhode Island-Connecticut, Maryland-Delaware, and Illinois. It is the first time

* This article may become the first of a series to be published in the JOURNAL. Both Mrs. Goodman and the Editorial staff would appreciate your comments since our objective is to help inform classroom teachers about the availability of recently published maps. Is the information useful? What changes might be made in a second article to help make it more practical and useful? (Editor's Note)

in many years that some of the earlier state base maps have been revised. The maps show new towns, roads, railroads, boundaries, and dams. Towns which have been abandoned and railroads which have been discontinued are deleted. A description of the map of New Jersey is given here as an example of the new state maps with shaded relief.

The *State of New Jersey,* 1:500,000 (20 x 24 inches) is mapped on the Lambert conformal conic projection with a contour interval of 200 feet. The rough, high land around the Kittatinny Mountains in the northern part of the state contrasts vividly with the low, flat marsh lands along the Atlantic coast. Built-up areas for towns over 10,000 are shown in yellow. Roads, railroads, and internal boundaries are clearly indicated. Credit for source data is given to the Corps of Engineers, Bureau of Public Roads, Coast and Geodetic Survey, and the New Jersey Department of Conservation and Development.

Other shaded relief maps of significance to geography teachers include the following U. S. Geological Survey quadrangles:

The *Waldron, Arkansas Quadrangle,* 1:62,500, presenting the features of the folded Ouachita Mountains, would be useful in teaching the effects of erosion. A number of water gaps are apparent where streams have cut thru hard-rock ridges. Ridges, valleys, and a trellis drainage pattern are obvious.

The *Strasburg, Virginia Quadrangle,* 1:62,500, shows folded mountain topography in the Shenandoah Valley. On this sheet the long parallel ridges of Massanutten Green, Three Top, and Powell Mountains divide the north and south forks of the Shenandoah River. In the southeastern corner a portion of the Shenandoah National Park is shown. In addition to physiographic and geologic significance, this area of Virginia has historical importance as the region in which several Civil War campaigns were conducted.

A Topographic Map of the Black Canyon of the Gunnison National Monument, Colorado, 1:24,000 (21 x 27 inches) was published in 1950 by the Geological Survey in co-operation with the National Park Service. Only a narrow strip on either side of the river is mapped. The sheet portrays very strikingly the rugged terrain, the deep incision of the canyon thru plateau and mesa areas, and the lack of transportation except by dirt roads. Spot heights are given for a number of peaks. The contour interval is 40 feet. A profile of the canyon at the Narrows is diagrammed in the margin.

Denver Mountain Area, 1:190,080 (1950) is the title of a large sheet (30 x 24 inches) in the shaded relief series. It has a contour interval of 500 feet. The Continental Divide is obvious and the mountainous region on the western half of the sheet contrasts sharply with the irrigated plateau to the east. The cities of Denver, Boulder, Longmont, Loveland, Fort Collins, Estes Park, Central City, and Idaho Springs are named as well as numerous parks and reservoirs. Several classes of roads and railroads are shown, the main-traveled routes being indicated in red. Construction work on the Colorado-Big Thompson water diversion project is also shown. The verso contains a detailed description of the area, its setting, and geological history. Sketches and pictures tell "The Story of the Mountains" and the effects of "The Ice Age." A contour edition without shaded relief is also available.

Several sheets in the Alaskan Topographic Reconnaissance series, 1:250,000, have been published in shaded relief editions. Included are sheets for the Talkeetna Mountains, Kenai, Medfra, Sleetmute, and Tanacross. The first-mentioned covers an area of approximately 6,650 square miles, north of Anchorage. It is a rugged, unsettled mountain region. The Susitna and Talkeetna Rivers flow westward, draining the area with their many branches. The Kenai sheet shows the area around Cook Inlet, west of Seward. The lowland of the Kenai National Moose Range is dotted with lakes and swamps in contrast to the glaciers and sharp peaks of the Alaskan Range. The Medfra sheet shows the mountainous areas west of Mt. McKinley. There are no contour lines on this sheet and topography is indicated by shaded relief only. Part of the Kuskokwim River with its tributaries is shown on the Sleetmute sheet, which also lacks contour lines. A portion of the Canadian boundary, and the Alaska, Slana Tok, and Fortymile Highways are shown on the Tanacross sheet as is the Tanana River with its numerous curves and rapids.

The whole of Alaska is mapped without shaded relief on the scale 1:1,584,000 (1 inch to 25 miles) on a new two-sheet wall map (54 x 78 inches) by the Geological Survey. This colored map, designated as "Alaska Map B, Edition of 1950," was "compiled from all authentic sources, chiefly maps of the Geological Survey and Army Air Forces." In addition to cities, highways, airports, mountain peaks (with spot heights), the map shows the international boundaries, and internal Judicial Divisions. The Aleutian Islands appear in an inset at the bottom of the map. The

drainage pattern is conspicuous and glaciers are outlined.

The Soil Conservation Service, U. S. Department of Agriculture issued the following noteworthy maps in 1950:

1. *Soil Conservation Service Operations.* Three maps showing the northern Great Plains (Region Five). 1:3,500,000. Each 17 x 21 inches.
   a. Base map with drainage pattern and county boundaries.
   b. Colored map which spots the headquarters of group, regional, and state offices, and shows conservation districts, land utilization and nursery projects, co-operative state grazing districts, and the Wheeler-Case Irrigation Project.
   c. Map on the verso of "b" identical with "a," except that the zone boundaries and numbers are overprinted in green.
2. *Problem Areas in Soil Conservation.* 1:9,000,000. 13 x 21 inches. Red overprinting on a U. S. Geological Survey base map shows physiographic regions and 175 problem areas which are named on the verso.
3. *Soil Conservation Districts.* 1:9,500,000. 13 x 20 inches. Administrative map in four colors on U. S. Geological Survey base showing the districts organized "Prior to 1941," "1941 thru 1943," "1944 thru 1946," and "1947 thru 1949." The spread of the conservation movement in the past decade from the South to the northern and western states is quite apparent.

F. J. Marschner of the Bureau of Agricultural Economics, U. S. Department of Agriculture, has prepared a map showing *Major Land Uses in the United States,* 1950 (1:5,000,000 or approximately 80 miles to 1 inch). The base map of the U. S. Geological Survey is plotted on the Alber's conical equal area projection with standard parallels at 29° 30′ and 45° 30′. Thirteen color symbols designate land types and uses. The size of the map (25 x 39 inches) makes it suitable for display on the walls of small classrooms. Considerable detail is shown in spite of the small scale. In addition to its value for courses in economic geography, the pleasing color combinations make it an attractive example of modern cartography.

Alec M. Crowell, Natural Gas Consultant in New Orleans, copyrighted a map (20 x 29 inches) titled *Natural Gas Pipe Lines in the United States* (July 1950) 1:7,500,000. There are no co-

ordinates on the sheet. Four classes of pipe lines are shown: "proposed," "approved," "under construction," and "operating." Numbers key these pipe lines to the 118 gas companies which control them. Gas producing areas are outlined. The map is for sale at the publishers office in the Carondelet Building, New Orleans.

U. S. Railroads Classified According to Capacity and Relative Importance, 1:4,500,000, was copyrighted late in 1950 by Simmons-Boardman Publishing Corporation. It was prepared by Edward L. Ullman, Associate Professor of Regional Planning, Harvard University. It is a colored map (29 x 42 inches) which shows single and multiple track lines, electrification, centralized traffic control, and automatic signals. An inset shows three classes of railroads in the northeastern states. Classes in transportation will welcome this map.

The new plastic three-dimensional relief map of *The United States of America,* 1:3,125,000 (or 1 inch to 50 miles) 1950, by the Aero Service Corporation of Philadelphia is designed for teaching at both primary and secondary levels. The vertical exaggeration is 20 to 1. Despite the size (40 x 64 inches) this map weighs only two and one-fourth pounds because it is made of Vinyl plastic, a material which is washable and noninflammable. This self-framed map is lithographed in 11 layered tints. Approximately 2,000 cities, 600 rivers, all national parks and monuments, and 200 mountain ranges are named.

Other plastic relief models suitable for elementary school use are three Terra-Scenic models of New York, Pennsylvania, and New Jersey, copyrighted by W. H. Olsen & Co., Inc., Providence, Rhode Island. These three pieces are small, light-weight, and easy to handle. They fit together like a jig-saw puzzle. New York is pale green and the other two states cream-colored. The maps are blank with only relief shown. When fitted together the over-all size is approximately 16 x 18 inches. The field of visual education will benefit if similar pieces are made for the other 45 states.

Six sheets of the *Eastern United States, 1:250,000* (AMS V501) were issued as plastic relief models by the Army Map Service in March 1951. The sheets (21 x 31 inches) are Cumberland, Charlottesville, Roanoke, Baltimore, Washington, and Richmond. They were molded on thermoplastic sheets which were first reproduced by offset from the color plates used for the standard paper editions of the maps. These topographic maps show much detail:

boundaries, roads, railroads, rivers, cities, and towns. The relief features on the first three sheets in particular are shown even more emphatically than by shaded relief. To date these models have not been produced in sufficient quantity for sale or general distribution. When they are available, no doubt the demand will be great not only for these sheets but for coverage on other parts of the country.

Foreign Maps

Late in 1950 the Information Service of the E.C.A. Special Mission in France published a poster-type map of France titled *Principales Activités Françaises Beneficiares du Plan Marshall* (30 x 23 inches). The map is boldly colored in shades of dark green, brown, maroon, and royal blue to stress the political subdivisions (départements). The legend distinguishes between direct and indirect aid to agriculture and industry. Twenty-eight symbols locate resources and industries. Corsica and the Paris metropolitan area are shown in insets. The map is available from Les Services d'Information de la Mission Speciale, en France de l'E.C.A., 41 Faubourg St. Honoré, Paris 8, France.

One of the best postwar maps of Germany yet to appear is the *Kriegsfolgen-Karte Westdeutschland, 1939-1950* (1:500,000) compiled by Karl-Otto Gassdorf and Dr. Manfred Langhans-Ratzeburg and published at Frankfurt a/M by Verlagsbuchhandlung Karl-Otto Gassdorf. This wall map (72 x 48 inches) contains a wealth of information on the population and industrial pattern of western Germany. Colors, symbols, and numbers show the shifts in population and the pre-war status, war damage, and reconstruction of industries. Internal boundaries are shown for all political subdivisions. One inset spots bridges which were destroyed and indicates whether they have been rebuilt. Another inset shows the Rhine-Westphalia Industrial Region. A statistical pamphlet (142 pages) accompanies the map. In spite of all the data presented, the map is not cluttered. It is an excellent example of German cartography.

Four sheets in a new series titled *Weltforstatlas* have appeared in 1951. Edited by Richard Tarunsky under the direction of Dr. Franz Heske and published by the Zentralinstitut für Forst-und Holzwirtschaft in Hamburg-Reinbek, it will contain 50 maps when completed in 1952. The text on these colored sheets is in German,

English, French, and Spanish. Place names are in German only. Sheets which have appeared thus far are:

1. "General View on the Forest Distribution in Northern Eurasia." 1:10,000,000. (21 x 33 inches). Different color combinations show seven types of forests.
2. "General View on the Forest Distribution in France." 1:2,000,000. (21 x 27 inches). Corsica appears in an inset.
3. "General View on the Forest Distribution in Great Britain." 1:2,000,000. (21 x 27 inches)
4. "General View on the Forest Distribution in Germany." 1:2,000,000. (21 x 27 inches). Boundary of 1937 is shown.

The last three sheets show forest cover in green, rivers in blue. Very few place names are given. The atlas intends to depict distribution of forestation, various kinds of trees, extent and location of lumber and woodwork industries, and extent and channels of international lumber trade. Maps on geology, vegetation, population, and climate will be included along with statistical data. No doubt this Weltforstatlas will find wide general interest and use.

The Geological Society of America published a *Geologic Map of South America* (1950) which was prepared by George W. Stose under the direction of a committee of the Geological Society of America in co-operation with the American Geographical Society and the U. S. Geological Survey from maps contributed by government bureaus of the South American countries. The members and associates of the committee are listed in the margin. Lewis B. Pusey is the geologic cartographer. The approximate scale is 1:5,000,000. The Heintz Company of Washington, D.C. printed the two sheets, each measuring 34 x 47 inches. A separate legend sheet in Spanish and Portuguese accompanies the map. Forty-eight color combinations identify formations. This wall map is not only authoritative but unusually attractive.

Erwin Raisz of the Institute of Geographical Exploration, Harvard University, prepared the latest in his series of physiographic maps for the Environmental Protection Section of the Office of the U. S. Quartermaster General. It is a colored edition titled *Landform Map of Canada,* 1:6,500,000 (30 x 35 inches). The projection used is the Lambert Conformal Conic with standard parallels 55° and 65°. Robert L. Williams prepared the hydrography. This colored edition is not as easy to read as the sharp

clear black and white landforms of Raisz' earlier maps. Water features are shown in blue and landforms in a somber shade of brown. Two insets show the physiographic provinces of Canada and its relation to other north polar countries. The legend explains the terms: drumlins, eskers, glacial troughs, raised beaches, lineation, and joint-controlled shield.

Ethnic Groups of Northern Southeast Asia, 1:2,500,000, is a map prepared by William L. Thomas, Jr., under the direction of Professor John F. Embree, Southeast Asia Studies, Yale University, to accompany a gazetteer, of the same title. The base of this multi-colored, one-sheet map (26 x 30 inches) was compiled from the *Asia 1:1,000,000* series published by the U. S. Army Map Service between 1942 and 1945. The legend indicates two main breakdowns: Major Ethno-Linguistic Groups and Minor Population Groups. The latter contains four sub-divisions: Tibeto-Burman, Mon-Khmer, Miao-Yao, and others. The sources for the ethnic data are given in the gazetteer. This map will be of particular interest to students of human or social geography.

No list of new maps would be complete without the inclusion of a map of Korea. The best available general map is the Korean sheet (No. 4) of the *Japan Road Map* 1:1,000,000, prepared by the Army Map Service. Late in 1950 Rand McNally and Company issued a trade edition of the A.M.S. map, using the original plates. Roads, railroads, cities, and towns are distinctly shown. Relief is by brown shading and the 38th parallel is shown in red. English equivalents for Korean generic names are given in the legend. The Rand McNally *Official War Map of Korea* (36 x 26 inches) includes a list of principal cities with populations. Seven smaller maps on strategic areas in Asia were reproduced from its *Cosmopolitan World Atlas* on the verso.

MAP MOUNTING PROCEDURE

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Wall maps of certain areas are often expensive and difficult to obtain, especially if large scale is desired. For the same areas, however, flat maps are readily available. The Sectional Aeronautical Charts of the United States Coast and Geodetic Survey in particular come to mind. By mounting such maps yourself, a wall map collection may be built up or supplemented economically.

The following procedure for mounting maps which consist of several sheets has been found successful:

1. Equipment needed:
   a. all sections of the map
   b. a table, a little larger than the map will be in its final form
   c. unbleached muslin (available to 90 inches wide)
   d. one package Wheat Paste
   e. one can glue in jellied form (trade names: "Vizgum," "Adhesium," etc.)
   f. a 12-inch smoothing brush[1]
   g. four pieces of half-rounds, 0.75 inch wide and at least two inches longer than the map will be wide
   h. two boxes of thumb tacks with large heads
   i. one package of cotton tape, 0.625 inch wide
   j. two small eye screws
   k. one package of small wire tacks, 0.5 inch long
   l. one pair of scissors
   m. one tack hammer
   n. one sharp pocket knife or razor blade
   o. one 3-quart saucepan, for mixing paste, one 2-quart saucepan, for water
   p. a piece of cheese cloth
2. Trim the sections of the map, leaving a margin on the outside, and 0.25 inch overlap where two sections join. Where more than two sheets join, bevel the corners so that there are never more than two layers of paper.

[1] Items d, e, f, may be obtained in any paint store, they are standard paper hanging equipment.

3. Wash the mounting table to prevent stains and dirt to be transferred to the map.
4. Cut a piece of unbleached muslin, large enough to extend at least one to two inches beyond the edge of the table.
5. Starting from the center of the sides, working toward the corners, stretch the muslin and tack it to the underside of the table. This is best done by two persons working on opposite sides of the table. Tacks should be three to four inches apart and should finally be driven in with the tack hammer.
6. Pour water on the muslin, wetting it thruout.
7. Wet the sections of the map thoroly, front and back, and lay them out on the wet muslin. The paper should be allowed to saturate and stretch to the fullest extent.
8. Mix the paste (while paper saturates and stretches):
   a. in hot water dissolve thoroly a handful of glue.
   b. under constant stirring, pour small amounts of wheat paste into the solution until the desired thickness is obtained. If lumps should form, the paste will have to be strained thru the cheese cloth before use.
9. Adjust the sections of the map to the best fit. Mark the section corners on the muslin with a soft pencil as each section is removed.
10. Put the sections on another table and apply water again to the paper to prevent sticking.
11. Squeeze all surplus water and all air bubbles out of the muslin, working from the center toward the edges.
12. Apply paste liberally and evenly to the muslin.
13. Place sections of map on muslin in the marked positions. Be sure to put paste on the overlaps.
14. Squeeze air bubbles out from under the paper with the smoothing brush. Squeeze lightly and carefully, as the sections will slip easily.
15. With a damp cheese cloth lightly wipe all excess paste from the face of the map.
16. Let dry undisturbed for 48 hours.
17. With a sharp knife or razor blade cut the map out, leaving 0.5 inch extra at top and bottom.
18. Fold the extra 0.5 inch over and nail it between two half-

rounds. Let the half-rounds project an equal distince beyond the edge of the map on both sides.

19. Include cotton tape for tie bands, folded double, between the top half-rounds.
20. Screw eye screws into top stick and tie a light cord to them.

COLLECTING AND VISUALIZING PRECIPITATION DATA IN SCHOOLS

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An examination of elementary and high school geography books in the United States reveals that precipitation is considered an important element. This factor is frequently used to interpret man's attempts to adjust his activities to the physical environment and/or his attempts to change it to fit his needs. Despite precipitation's importance, children and parents alike seldom know much about local precipitation, and when statistics are provided, they are unable either to visualize data or comprehend its importance. Yet elementary and high school pupils lack the personal experience and knowledge necessary for interpreting many geographic activities and problems if they do not thoroly understand the precipitation factor.

The purpose of this paper is two-fold. First, to make some suggestions about securing and using equipment. Second, to suggest experiences which will give reality to this weather element.

The collection of weather data is a very effective learning experience. Expensive equipment is not necessary and make-shift equipment easy to secure. The chief need is for teachers to know what equipment is practical and how to provide experiences which will give reality to statistics.

SECURING EQUIPMENT

To collect and to display precipitation data with some accuracy, the following materials are needed: 1. rain and snow gauge; 2. a frame to hold the gauge; 3. display racks and test tubes; 4. a flat board and a sheet of tin (or a wooden shingle); and 5. a ruler or measuring stick graduated in tenths and/or hundredths of an inch.

An ordinary ruler graduated in sixteen or eight units to an inch may be used.

1. Rain and snow gauge. If the school has adequate funds, a well-constructed factory-made rain and snow gauge will prove a valuable piece of equipment. If funds are limited one may buy the materials and have the school workshop make the instrument. In the latter case, the supervisor of the workshop may be interested in an article entitled "A Simple Rain Gauge" written by Elbert E. Miller and Robert C. Burnham and published in the March 1950 issue of the Journal of Geography, pages 122-123.

Should a school lack both funds and a workshop, one can use make-shift equipment such as a round gallon can or a crock. A flat bottomed crock about eight inches in diameter and eight or ten inches high is practical. Altho the results of measurement will not be as accurate with such materials, the technique of collecting data will be about the same. In fact, making and assembling such equipment offers additional stimulation and experience. Children who may not be able to contribute to other things, may enjoy the privilege of bringing discarded gallon cans to school. Moreover the use of make-shift equipment encourages some children to use the same type at home.

2. Frame. Regardless of whether it is a standard model rain gauge or a gallon tin, the instrument will need to be placed in a frame to prevent its being knocked over. A three-sided frame made of small boards mounted on two or three stakes driven into the ground will do. If a heavy cylindrical crock is used a frame is not necessary. However, a crock should not be used during the freezing and thawing part of winter.

3. Test tube rack. If funds are available buy two or more test tube racks and two or three dozen tubes. However, make-shift equipment may be substituted. The racks which will be used to display data may be made from parts of a dismantled orange crate. For weather data display purposes these racks should only have one row of holes. Cylindrical olive bottles six to eight inches high, small in diameter and of equal size, may be used as tubes. These bottles must be thoroly sterilized.

Whether you are using tubes or bottles, they should be banded at regular intervals. With a brush place bands of black India ink at intervals of one-half inch with a heavier band marking every inch.

4. Board and sheet of tin. The board and tin are needed in

collecting snowfall data. They should be several inches wider than the diameter of the rain gauge. They may be any old discarded pieces. The end of an orange crate or a cut and flattened tin from a gallon can will do.

LOCATION OF THE GAUGE

The correct location of the rain gauge offers an opportunity for a stimulating class discussion. After inquiring about possible sites, the teacher calls on the contributors to give the reasons for their suggestions. Often the answers about its location will be in relation to the classroom. The teacher may then ask, "But if we place it next to the building on the north side and there is a dashing wind and a rain storm from the south what happens?" If someone suggests a position some distance from the building but beneath a tree, an additional problem arises. Thruout the discussion, the teacher keeps in mind the rule that a rain and snow gauge should not be placed closer to an object than that object is tall. During or as a summary of the discussion to stress the importance of this rule, it should be written on the blackboard.

If working with rather mature pupils, if there are tall objects such as trees in the schoolyard and if it seems desirable, the teacher may next give the pupils a method of estimating heights of objects by triangulation. Such a project is invaluable experience in observation and measurement, and is an important geographic technique.

USING THE EQUIPMENT

Once the rain and snow gauge is properly located there simply remains the daily task of measuring the amount that falls. If the rain comes at night, it should be measured as soon as the children come to school in the morning and before too much evaporation takes place. If it rains during the school day and the open gallon tin is used, the water should be measured as soon as possible after it stops raining. The importance of taking such action is a geographic one and may be the topic of a group discussion. Or a series of water evaporation experiments may be performed to demonstrate what happens to water in open containers especially during warm sunny and/or windy days.

While discussing the need of measuring precipitation before it evaporates is a good time to ask, "What precautions are taken by governmental observers to prevent loss of precipitation by evaporation before it can be measured?"

Pupils should be taught how to measure snow in terms of water before the first snow. If some do not ask, "How can we measure snow and record it as water?," the teacher may. Such a question may bring out three important points, namely: 1. What method is used to secure water data from snow? 2. What preparations need to be made for measuring snow? and 3. About what time should we expect the first snowfall? These problems are very real to people living where snows are common, and may be used for class discussion or if the teacher provides the source material, as pupil research topics. Information about the first two problems is available in *Instructions for Airway Meteorological Service Circular N* of the United States Department of Commerce, Weather Bureau, Washington, D.C.

Since most instructors may not have funds with which to purchase this bulletin or others may wish to launch a project before it arrives, a few paragraphs on preparations and method may be welcome.

Before the first snow, place a flat board (several inches in diameter larger than the rain gauge) flush with the ground near but several feet away from this instrument. Either after the snow storm or at regular intervals during the storm, insert a ruler vertically down thru the snow until it strikes the board and measure. The snow in the gauge should not be measured as it will not be level.

The amount of water in snow may be measured in the following way. In a container of equal diameter as that of the snow gauge, put a few inches of water, room temperature and measure it to the nearest tenth or hundredth of an inch. Pour this warm water into the snow gauge. After the snow has melted measure the total water and subtract the first amount. The remainder is the amount of water in the snow and may be added to rainfalls already recorded. Governmental precipitation reports in inches include both rain and melted snow. On the average, ten inches of snow melts down to one inch of water. If for some reason the snow in the gauge cannot be melted and measured, invert the gauge and push it down thru the snow on the nearby board. Then holding the board securely to the mouth of the can turn it over.

If it should snow and the board has not been provided, a measurement may still be made, but it will not be as accurate. After pushing the inverted gauge down thru the snow to the ground, slide a

piece of tin or wooden shingle under it. Then turn the gauge over holding the flat tin securely as a lid.

Data about the first snows, first frosts, etc. is quickly obtained from two small but useful governmental publications. They are: Climatological Data—Indiana (or the state in which you live) and the "Weekly Weather and Crop Bulletin." Since prices vary from state to state and from time to time, interested persons should address an inquiry to Chief, Weather Bureau, United States Department of Commerce or Superintendent of Documents, Government Printing Office, Washington 25, D.C. Climatological Data of your state is published monthly and contains a map showing locations of weather stations. One of these stations will be somewhere near your school if not in your city.

RECORDING OF DATA

Data of daily observations should be carefully recorded. There are several good methods and teachers should use those best suited to their classes. If the class has not had the experiences of placing weather information on a calendar which has the days in large frames, then this method should be one of those selected.

The advantage of recording the data on a monthly calendar sheet is that it helps the pupils visualize the weather by weeks and months, and the data is available for quick reference. If this method is used, pupils can quickly observe whether there has been precipitation or not during the week by simply glancing at the calendar.

For less mature pupils only two items about precipitation need be recorded. The upper left hand corner of the calendar frame may be reserved for type of precipitation. Here the pupils place the symbols, such as: R for rain; S for snow; D for dew; F for frost; H for hail and I for ice storm.

The upper right hand corner may be reserved for amounts of precipitation. Younger children may use letters as follows: T for trace; L for light; M for moderate and H for heavy. More mature pupils may record amounts in tenths and hundredths of inches.

More advanced pupils may record four items concerning precipitation. In addition to type and amount they may record intensity and time when the precipitation period began and ended. If the time for either is not known, it may be estimated and an "e" representing "estimated" placed in a bracket beside the data.

USING THE DATA

Formerly some teachers stimulated pupil interest in and supervised their recording of precipitation but they did not follow thru to provide experiences whereby they could visualize this information and comprehend its importance.

Arranging test tube displays of data is an effective visual teaching aid which lends itself to learning thru comparison and to stimulating of additional research. As soon as the first complete month of data has been collected, displays may start. For example, if during October 4.5 inches of rain fell, then place 4.5 inches of water in a test tube. This tube is labeled as to month and year and placed in the rack. The water may be colored with red or blue ink to make it more visible at a distance. Under normal conditions such a display arouses interest. Was October this year more wet or dry than last year or the year before? What were the largest and smallest amounts of precipitation that fell during any October in our city? Did our city get more or less rainfall than neighboring cities? How did our October rainfall compare with other parts of the United States or other places in the world? Use places in the world which are of interest to the pupils because of study, local experience or some recent world event such as the war in Korea.

After such a discussion these two questions may follow: "Is additional precipitation data available for our city, our country, our part of the state? Where can we get more data?"

To obtain such information teachers or pupils under the formers' supervision may write the United States Weather Bureau, Department of Commerce, requesting Climatological Data Summaries and Agricultural Yearbook Separates. If past data is not available for the local city, then you will need to rely extensively upon the data collected at the nearest official station.

More than one display may be made. Some pupils may want to compare monthly statistics of their city with those of cities in adjacent counties. Others may wish to prepare a display comparing data they have collected with that of other parts of the United States. The teacher may direct the pupils to prepare displays showing how precipitation varies in the United States or North America. Others may show how precipitation in similar climatic regions as their own but in other continents varies or is approximately the same.

When pupils have collected a season of precipitation they can then prepare seasonal displays. Of course, yearly comparisons may follow.

Toward the close of the school year displays can be made of the yearly rainfall. These may include the data collected for the current year (by the class or supplemented by a local or nearby station); for the wettest year; for the driest year; etc.

After repeated experience with displaying data in test tubes, it is comparatively easy to teach children how to make column and line rainfall charts or graphs.

Three precautions to keep in mind are: 1. After completing a comparison project put the tubes and racks away for two or three weeks. Otherwise they often become such a common feature in the room that they fail to attract attention. 2. If the room is low in humidity water will evaporate in the tubes and need to be replenished. 3. Be aware of the fact that the methods here suggested will not have the same appeal or value for all pupils.

Collecting and displaying precipitation data helps make one conscious of the importance of water. The skillful teacher guides his pupils into research as to the number of inches of precipitation needed for various local commercial crops and native vegetation, and then takes them to less familiar crops and native vegetation in which pupils may be interested.

For example, many adults, including some classroom teachers, in the Corn Belt do not know how many barrels of water are necessary to produce a hill of corn with two large stalks and four good ears.

If a program is well planned and administered, slowly and naturally pupils will become acquainted with the local precipitation, yearly and monthly amounts, type, variations from year to year and its importance. They will be able to visualize amounts of precipitation when they look at a graph or read data in their texts. They will be able to use this vital geographic factor in their geographic thinking.

AN INEXPENSIVE WEATHER STATION

An interest in collecting and using precipitation data may lead to an interest in other weather elements and a desire to establish an inexpensive school weather station. An article entitled "Estab-

lishing an Inexpensive Weather Station" appeared in the September, 1941 issue of the JOURNAL OF GEOGRAPHY. During 1951 a book entitled *Everyday Weather and How It Works* written by Herman Schneider was published by McGraw-Hill Company and an article entitled "50-cent Weather Bureau" appeared on pages 67, 68 and 70 of the August 6, 1951 issue of *Life*.

RECREATION REGIONS OF MISSOURI

ROBERT M. CRISLER AND MAHLON S. HUNT
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INTRODUCTION

The Recreation industry is becoming increasingly important in the American way of life. Every state has at least some type of recreation facilities. Nevertheless it is difficult to determine the relative significance of this industry. Missouri is used in this study as an example, and the attempt is made to suggest specific recreation regions within the state.

The growing resort industry in the United States results from a combination of factors. Some of the more important are the automobile, good roads, high wages, shorter work weeks, longer vacation periods, earlier retirement from active employment, and increased and improved recreation facilities. Thus the means, the money, the time, and the facilities have become available to increasingly large numbers of Americans.

This paper is of an experimental nature to determine whether it is practical to divide a state into recreation regions. Since the geographer's unit of classifying data is the "region" and since we have already developed climatic regions, soils regions, agricultural regions, manufacturing regions, etc., it seems logical that some attempt be made to establish recreation regions. There have been no previous attempts by geographers to divide Missouri into recreation regions known to the writers. The Missouri State Division of Resources and Development, however, has divided the state into 15 recreation areas and has published illustrated booklets on eight of them.[1] However, apparently for political reasons, each

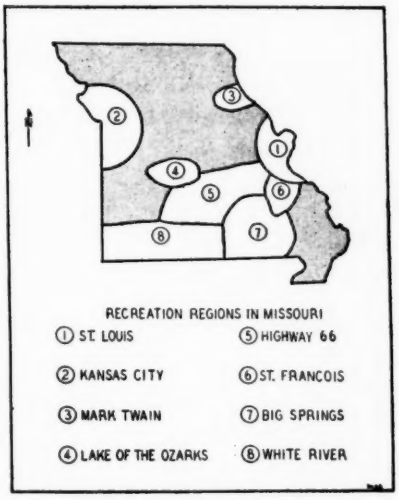
[1] The 15 are Pony Express Country, North Central Area, Mark Twain Region, Kansas City Area, Old Trails Area, Daniel Boone Region, St. Louis Area, Land of the Osage, Lake of the Ozarks Country, Central Ozarks Region, Meramec Valley, Old Settlement Playgrounds, Ozark Playgrounds and White River Country, Big Springs Country, and The Delta.

portion of the state has been given equal significance by this agency regardless of the relative significance of recreation in the various areas.

Economic Geography textbooks do not classify recreation areas into regions such as this study proposes. This is probably because of the relatively recent importance of recreation as an economic activity. In any event, this paper may be considered as a pioneer study in setting up recreation regions. In general, there are only a few theses and articles by geographers and very little usable statistical data available except for a few scattered local areas.[2] Even though the scope of this paper is limited to Missouri, it has potential application to the remaining states of the nation. Thus, in view of the rapidly expanding recreation industry of this country the ultimate objective of such a paper as this would be to carry the study further and determine the recreation regions of the United States. The more complete study would make a valuable chapter in any future Economic Geography textbook.

RECREATION REGIONS OF MISSOURI

A region is an area on the earth's surface which has a certain element or elements of homogeneity. In setting up eight recreation regions in Missouri, two elements of homogeneity related to recreation were used: 1. concentration of a large population and 2. concentration of specific points of interest such as lakes, caves, state parks, historic sites, etc. (see map).



Two regions were established on the basis of concentration of large population. These are the St. Louis and Kansas City Recreation Re-

[2] See, however, Cooper, C. E. "Tourism" JOURNAL OF GEOGRAPHY 46: 115-120, March 1947, for a general survey of the recreation industry, and Wolfe, Roy I. "Summer Cottagers in Ontario" *Economic Geography* 27: 10-32, January 1951, for an article treating recreation regions of Ontario which makes excellent use of Canada Post Office lists of home addresses of summer cottagers. A recent article by Deasy, George F. "The Tourist Industry in a 'North Woods' County" *Economic Geography* 24: 240-259, October 1949, was concerned over the small amount of material in the geographical literature. Conservationists have given some attention to the subject as for example Renner, George T. *Conservation of National Resources* John Wiley & Sons, New York, 1942, 136-145.

gions. Large concentrations of people in a modern industrial state with high standards of living tend to create their own recreational outlets as experienced in any large metropolitan area with its numerous recreational attractions. A circle with a 50 mile radius was used as the boundary for each of these recreation regions. A 50 mile radius was arbitrarily selected as an acceptable figure for Middlewestern metropolitan areas. In the St. Louis Region this includes over one and one-quarter million Missourians, while in the Missouri portion of the Kansas City Region the population numbers about eight hundred thousand.

The remaining six regions were established on the basis of a concentration of specific scenic and historic points of interest. These regions are Mark Twain, Lake of the Ozarks, Highway 66, St. Francois, Big Springs, and White River. Finally, there are what may be termed Incidental Recreation Areas, i.e. isolated recreational centers of more than local significance which are not a part of a major recreation region (just as Wichita is an industrial center not part of a major manufacturing region).

In setting up regions of any kind it must be remembered that there is a regional "core" which has a greater homogeneity than the margins. Thus the boundaries of these recreation regions are by no means fixed and rigid. Also, it should be understood that when a region stops abruptly at the state boundary, it is very probable that the region extends into the adjacent state, but since this discussion deals specifically with Missouri, only the regions or parts of regions which lie in Missouri are discussed.

St. Louis Recreation Region

Within a radius of 50 miles of St. Louis there are four state parks established principally for the pleasure of the people within the St. Louis area. These are Dr. Edmund A. Babler Memorial, Cuivre River, Ft. Zumwalt, and Washington state parks. None of these offer any outstanding attraction other than the fact that they may be distinguished from ordinary farmland or woodland since they are in various stages of improvement by the state or under state supervision. They represent the direct need of large concentrations of people for recreational facilities regardless of scenic beauty or outstanding historical attractions within a short distance of home. With the exception of Ft. Zumwalt which is virtually undeveloped and centers around a little known historic site, these

parks consist of rolling topography and forest vegetation developed for picnicking, hiking, nature study, and horseback riding. Cuivre River state park is a center for organized camping of such groups as Boy Scouts, Girl Scouts, and 4-H Clubs. Washington State park offers petroglyphs carved by some unknown people in ancient times.

Besides these four state parks there are several hundred private summer cabins located along the various rivers in the St. Louis Recreation Region. These cabins usually owned by St. Louisians who like to escape the summer heat of St. Louis on the weekends, are especially prominent along the Meramec River.

Within St. Louis itself there are many points of interest used for recreational purposes due primarily to the concentration of population. Some of the more important are Missouri Botanical (Shaw's) Gardens and various city parks such as Forest (containing the zoo, art museum, municipal opera, Jewel Box and Jefferson Memorial), Fairgrounds, O'Fallon, Tower Grove, Carondelet and Lafayette. Sports events offer considerable in the way of attractions with the Cardinals and Browns major league baseball teams, college sports events especially at Washington and St. Louis Universities, and professional sports such as ice hockey, basketball, wrestling, and boxing at the Arena or Kiel Auditorium. The city of St. Louis is dotted with historical sites such as the Old Cathedral located in an area along the riverfront to be developed as the Jefferson National Expansion Memorial. The largest single manufacturing concern in St. Louis, the Anheuser-Busch Brewery, offers conducted tours thru its plant several times daily.

Within St. Louis County there are several private and public country clubs, a county park, and airports and flying clubs which serve the recreation needs of many people.

Besides St. Louis, St. Louis County, and the state parks, points of interest in the area include the Arboretum of the Missouri Botanical Gardens at Gray Summit, the Lead Shot Tower at Herculaneum, the Old State Capitol Building at St. Charles, the Nathan Boone House near Defiance, and the monument marking the spot where Daniel Boone was originally buried near Marthasville. Washington, Missouri, is the world center for manufacture of corn cob pipes. Ste. Genevieve, the State's oldest settlement, contains a museum and a number of historic dwellings.

Kansas City Recreation Region

The Kansas City Recreation Region has recreational facilities similar to those in the St. Louis Region. Neither of the two state parks, Lewis and Clark and Wallace attract many visitors from outside the Kansas City Region having been developed primarily for picnicking and fishing.

Within Kansas City itself, city parks such as Swope (which contains the zoo), Spring Valley, North Terrace, Penn Valley, and Roanoke, serve Kansas City as do the parks in St. Louis. The William Rockhill Nelson Art Gallery, Liberty Memorial, and the stock yards are outstanding attractions. As in any metropolitan area there are theaters, country clubs, airports, and numerous sports events.

Near Kansas City there are clubhouses or summer homes especially along the Big Blue River and on several small artificial lakes.

Five smaller cities of interest in the region are St. Joseph, Independence, Excelsior Springs, Weston, and Lexington. Points of interest in St. Joseph include the Robidoux House, Eugene Field's Lovers' Lane, the Jesse James House, and the Pony Express Stables. Independence has gained recent fame as President Truman's hometown. Historically it was important as an outfitting point for the Santa Fe and Oregon Trails, and is important today as a center of the Mormon religion.

Excelsior Springs is Missouri's most famous health resort. The Hall of Waters is the chief tourist attraction. Weston is the center for the only important tobacco growing area west of the Mississippi River. In Lexington the chief attractions are the courthouse and site of the Battle of Lexington.

These recreational facilities in the St. Louis and Kansas City Regions are used primarily by inhabitants of the regions themselves. Some of the points of interest do attract tourists from outside the regions themselves. However, by and large, each of these is a different type of recreation region from the other six in the state. In general, recreational facilities within the 50 mile radius of the central urban cluster can be utilized by the urban dwellers of the respective metropolitan areas without staying overnight away from home.

MARK TWAIN RECREATION REGION

This region is an area about 30 miles wide extending in length about 40 miles from Hannibal to Paris. The Mark Twain State Park is on the banks of the south fork of the Salt River. The house in which Mark Twain was born was moved here from the nearby village of Florida in 1930 and is maintained as a museum.

The rolling hills along the Salt River contain terrain and flora similar to the Ozarks and provide scenic beauty. Here are mineral springs, old covered bridges, and Missouri's most famous court house (at New London).

Hannibal itself is the main attraction in the area. Its numerous historical sites include the Mark Twain museum and home, the "Becky Thatcher" House, the Mark Twain Memorial Lighthouse, Riverview Park, Mount Olivet Cemetery, and, just south of Hannibal, Mark Twain Cave.

LAKE OF THE OZARKS RECREATION REGION

This region is about equidistant from St. Louis and Kansas City and features the 65,000 acre Lake of the Ozarks with 1,300 miles of shoreline behind Bagnell Dam. The hills, creeks, bluffs, natural bridges, caves, springs and lake make this area one of the outstanding recreation regions of Missouri. It is widely used, attracting vacationists not only from the large urban centers of St. Louis, Kansas City, and Chicago, but also from other areas, especially Missouri, Illinois, Iowa, and Kansas.

A resort economy prevails thruout most of this relatively sparsely populated region. According to Weldon A. Stein "At Camdenton, Missouri, one of the trade centers in the Lake of the Ozarks resort area, local businessmen estimate that retail volume in that town has increased about ten times since development of the resort area began. In Eldon, Missouri, another trade center for this resort area, retail volume is said to have increased four times between the completion of Bagnell Dam in 1931 and 1940, and to have expanded another four times since 1940."[3] Within this region is Lake of the Ozarks State Park, the largest state park in Missouri. It contains a deer preserve, beach, boat dock, and picnic, camping, and horseback riding facilities. Within the region are two commer-

[3] Stein, Weldon A. "The Recreation-Travel Industry in the Eighth District" *Monthly Review Federal Reserve Bank of St. Louis* 31 No. 5, May, 1949.

cially operated caves, Bridal Cave and Jacob's Cave. Hahatonka Spring and ruins of Hahatonka Castle are major attractions as are the gold fish hatchery and splint-bottom chair industry in the Camdenton section.

HIGHWAY 66 RECREATION REGION

This is an area extending from Sullivan to Marshfield along United States Highway 66. Existence of this well travelled highway was important in developing the natural attractions of this region. In the northeast corner of this region is Meramec State Park and in the Southwest corner Bennett Spring State Park, two of the state's best developed parks.

The hills, streams, springs, and caves of this area are the major attractions. Missouri's two most outstanding caves, Meramec Caverns and Onondaga Cave, are both here. These are two of the seven scenic wonders of Missouri.

ST. FRANCOIS RECREATION REGION

This is a small recreation region in eastern Missouri centering on the oldest geological formations outcropping anywhere in the State. Much of the area is being preserved in a national forest but there are no state parks. Known as the St. Francois Mountains, this region is full of picturesque "shut-ins," gorges cutting thru granite. At Graniteville are the famed Elephant Rocks, huge granite boulders eroded into fantastic shapes. Also in the region are four so-called mountains which attract tourists. They are Iron Mountain, Pilot Knob, Buford Mountain, and Taum Sauk Mountain. The last named is the highest point in the State. At the base of these mountains is the scenic Arcadia Valley.

Historically, this region was one of the earliest to be settled in the entire Mississippi Valley. Place names indicate the early French influence and a French dialect is still spoken around Old Mines, a settlement north of Potosi. In Potosi, center for the mining of barite (locally called "tiff") Moses Austin is buried.

Huge chat piles from the lead mines around Flat River further indicate the importance of mining in this region. This is America's "lead belt."

BIG SPRINGS RECREATION REGION

This is a rugged forest-covered area drained by a number of clear streams and containing a number of large springs. There are

five state parks in the region. Big Spring State Park contains the biggest spring in the Middlewest. Three other state parks, Montauk, Alley Spring, and Round Spring, are also noted for a large spring, while Sam A. Baker State Park is noted for encompassing some of the wildest country in the State.

Not all the large springs in the area are in state parks. Greer Spring, north of Alton, is the most outstanding of these. Mammoth Spring is a large spring just barely over the state line in Arkansas.

There are a number of caves in the area altho few have been developed on any large commercial scale because of their remoteness from major highways. Near Thayer there is a giant sinkhole known as Grand Gulf. On State Highway 19 near Round Spring State Park the State Conservation Commission has preserved a stretch of virgin pine forest.

Fishing is especially famous in the Big Springs Region. There are two large reservoirs in the region, Lake Wappapello and Clearwater Lake. More important, tho, is the Current River, famed for that Ozark sport known as "float fishing." One merely hires a guide and floats slowly down the river for a day or week fishing as he goes while the guide handles the boat, camp-making and cooking. The Jacks Fork of the Current River around Eminence is an especially famous fishing stream.

White River Recreation Region

This large recreation region covers the southwestern corner of Missouri and extends well into Arkansas. Besides the many interesting scenic features there is also population concentration in Springfield (66,000) and Joplin (38,000). Much of the area is in Mark Twain National Forest.

The one state park, Roaring River, is perhaps the best developed in the State. The spring in this park is the second largest in the region, Double Spring being the largest. Whereas there are fewer large springs in this region than in the Big Springs Region, there are many of comparable scenic beauty.

The resort economy of the area is highly developed especially around Lake Taneycomo. Stein states that "In Branson, Missouri, for example, reasonably reliable estimates indicate that tourists spend approximately $3.0 million to $4.0 million annually. On the basis of these estimates, tourists' expenditures in Branson alone approximately equal 8 to 10 per cent of the aggregate income

received in Barry, Stone, Christian, and Taney counties."[4]

Besides the springs and Lake Taneycomo, there are many old mills and caves in the region. The region was made famous as the "Shepherd of the Hills Country" by the novelist Harold Bell Wright. The town of Hollister is one of the most unique in the Middlewest since the buildings are built to conform with an Old English architectural pattern. "Float fishing" is as characteristic of this region as it is of the Big Springs Region.

Incidental Recreation Areas

Besides the eight major recreation regions there are a number of incidental recreation areas. None of these seem significant enough to include in major recreation regions within the State. Seven scattered state parks, Arrow Rock, Big Lake, Big Oak Tree, Crowder, Montserrat, Pershing, and Van Meter, are of relatively minor significance as tourist attractions at present. Lake Sac Osage at Osceola is a minor recreation area. Hermann, Jefferson City, Columbia, and Boonville are cities which attract visitors regularly. A Boone's Lick Recreation Region might develop in the future. This would probably include Jefferson City, Columbia, Boonville, Arrow Rock State Park, Van Meter State Park, and additional undeveloped attractions in Central Missouri.

Summary

It would seem practical from the experiment made here in suggesting eight recreation regions in Missouri, for geographers to set up recreation regions in other states and eventually the entire country. This would be of value not only to the regional geographer and the economic geographer, but also to the general public in providing some degree of organization to the present chaos prevalent in the general chamber of commerce type of travel literature.

There is admittedly little "scientific" proof of the conclusions reached here. Tourists and resort owners alike are reluctant to divulge pertinent financial data even if accumulation of such data were practical. Missouri sales tax data were too general to be of value. Support for certain of the conclusions may be found however, by checking on resort advertising. In the Sunday *St. Louis Post-Dispatch* for June 18, 1950, 48 Missouri resorts advertised

[4] *Ibid.* Stein.

in the travel section. On the basis of the regions defined in this paper, 14 were in the Lake of the Ozarks Region, 12 in the Highway 66 Region, seven in the White River Region, six in the St. Francois Region, four in the Big Springs Region, three in the St. Louis Region, and two in the Kansas City Region. In the Sunday *Kansas City Star* for June 18, 1950, 47 Missouri resorts advertised in the travel section. In this instance 31 were in the Lake of the Ozarks Region, 14 in the White River Region, and two in the Kansas City Region. This would indicate at least that Missouri's commercial resorts are located in the eight recreation regions outlined above.

EDITORIAL NOTES AND NEWS

Are you acquainted with the Puffin Picture Books published by the Penguin Books Ltd., Harmondsworth, Middlesex, England? Recently we received a copy of this series entitled *About Maps* by Peter Hood.

One evening I loaned our newspaper boy, a seventh grader, the October issue of *World Youth,* A Geographic Adventure Story Magazine, and asked him to tell me how he liked any one of the stories. Much to my surprise, he brought it back on Monday after the weekend. His first remark was "Where can I subscribe for the magazine?" He had read all the stories and his mother had read part of them to the entire family. What has been your experience with this supplementary reading magazine?

After having served as chairman of the Department of Geography at Syracuse University for twenty years, Professor George B. Cressey has resigned and has been succeeded by Professor Preston E. James. As a very unusual action in recognition of a very unusual career of distinction and devotion, Chancellor William B. Tolley announces that Professor Cressey has been appointed Maxwell Professor of Geography.

Have you secured your copy of Professional Paper No. 12 on "Selected Bibliography on Geography Education for Curriculum Committee"? It is now available and the price is $1. Write to M. Melvina Svec, Secretary, NCGT, State Teachers College, Oswego, New York.

Have you used any of the twelve teachers guides now available for films in the Earth and Its Peoples Series produced by United World Films, Inc.? The first twelve guides accompany the following films: "Mountain Farmers (Switzerland)," "Farmers of India (Middle Ganges Valley)," "Eskimo Sea Hunters (Northwestern Alaska)," "Nomads of the Jungle (Malaya)," "Farming in South China (Si River Valley)," "U. S. Community and Its Citizens," "Farmer Fisherman (Norway)," "Building a National (Israel)," "Desert Nomads (French Morocco)," "An Island Nation (Japan)," "Oriental City (Canton, China)," and "Adobe Village (Valley of Mexico)."

CLYDE E. COOPER

1887-1951

Dr. Clyde E. Cooper, a former president of the National Council of Geography Teachers, and chairman of the Department of Geography and Geology at Ohio University until 1950, died September 20, 1951.

Dr. Cooper was first, last, and always, an advocate of geography. For him it was an uncompromising religion and he never hesitated to preach the geographical gospel without fear or favor. In so doing, he made many friends and occasionally a few enemies. Usually, however, time and events proved the animosities aroused to be in error, and his friendships always became sincere and lasting. Always overloaded with heavy teaching and administrative duties, and hampered by poor health during the last 15 years of his service, he was able, nevertheless, to be co-author of a textbook, to do some research, and to contribute numerous articles to the JOURNAL OF GEOGRAPHY.

But it was in the geography classroom that Dr. Cooper had few peers. His presentations were invariably clear, concise, and colored with gentle humorous sarcasm which mellowed over the years to a delightful lecture and discussion seasoning. This characteristic flavor, subtly insinuated into his classroom techniques, coupled with clear concentration on the major principles, and combined with amazing kindness outcropping frequently thru an actually thin veneer of gruffness, helped to make him a really great teacher of geography. Far more than the average, he was able to inculcate his zeal for the profession into the students who came to him. The surprisingly large number of leaders in our field who received their first inspiration from him constitutes lasting tribute to his work.

C. L. Dow

ZOE AGNES THRALLS RECEIVES THE DISTINGUISHED SERVICE AWARD IN GEOGRAPHIC EDUCATION

The National Council of Geography Teachers has as its sole purpose the promotion of geographic education at all levels of instruction. The Council recognizes the fact that the achievement of this objective rests upon the effectiveness of individuals who are interested and working in this field of endeavor. To honor those who have made outstanding contributions over the years to geography in education, the Council from time to time confers upon such individuals the Distinguished Service Award. This Award was bestowed upon Zoe Agnes Thralls, Department of Geography, University of Pittsburgh, at the annual meeting in Pittsburgh on November 23, 1951. In making the award, Dr. Kohn, Acting President of the Council read the following citation:

"The person to be granted the Award this evening richly deserves such recognition. She has long been associated with the promotion of geographic education in many ways. She is a leader in an area that has made great strides in the teaching of geography. She, herself, is an excellent and inspirational teacher and has encouraged many to develop geography in the teaching profession. She is also the author of outstanding publications, including a textbook that has been widely acclaimed.

"The National Council, too, has benefited as a result of this individual's contributions. She has always been a willing and industrious worker on many occasions, and has served the Council in many ways, both nationally and internationally.

"The recipient of the award this evening is a most unassuming, honest person, eager for the best, and able to take the most severe criticisms of her work. Her one thought is always to make her work better. She is especially zealous in studying the needs of junior high school youngsters, and to everyone who seeks her help she gives time and thought even beyond the call of professional duty.

"It is a real pleasure and an honor for me, therefore, on behalf of the National Council, to grant the Distinguished Service Award this evening to Zoe Agnes Thralls, Professor of Geography and Education, University of Pittsburgh."

CLYDE F. KOHN, *Acting-Chairman*
GEORGE B. CRESSEY
J. R. WHITAKER
O. W. FREEMAN
GEORGE J. MILLER

JOURNAL OF GEOGRAPHY PRIZES

In January, 1947, the editorial staff had the pleasure of announcing a series of prizes, to be awarded to contributors of outstanding content articles that have appeared in the Journal of Geography. These prizes are made possible by the generous contribution of one of America's eminent geographers who insists on remaining anonymous. Under the terms of the gift, the President of the National Council of Geography Teachers is directed to appoint committees to select the best articles. The President is an ex officio member of each committee. Annually the recipients of the awards are announced by the editor at the National Council of Geography Teachers' banquet. Eight awards have now been established honoring geographers designated by the donor, namely: Richard E. Dodge, Ray H. Whitbeck, George J. Miller, J. Paul Goode, Almon E. Parkins, Ellsworth Huntington, Isaiah Bowman, and Cora P. Sletten. Each recipient receives an award of $25.

George J. Miller Prize

This year the George J. Miller Prize, established to honor the writer of the best article in the last five years "dealing with some phase of geographic education or helpful suggestions to teachers" is awarded for an article entitled "The Sample Study—A Method and Its Limitations", written by Gladys M. Hickman and published in the April 1950 issue of the Journal. Mrs. Hickman, who taught during the summer of 1950 at Northwestern University, is a lecturer in Methodology at the University of Bristol, England.

J. Paul Goode Prize

The J. Paul Goode Prize, established to honor the writer of the best article in the last five years "for its graphic or cartographic presentation" is awarded for an article entitled "Divided India" and published in the September, 1948 issue of the Journal of Geography by John E. Brush. Mr. Brush, who lived for 13 years in India and was a Fellow at the University of Wisconsin in 1948, is now at Rutgers University.

Journal of Geography-Geographic Education Prizes

This year for the first time one of the two Geographic Education Prizes of the Journal of Geography is awarded. The two prizes are for two levels of geography in education, Elementary

and High School. These prizes have been established by an eminent woman geographer who is a Fellow of the National Council of Geography Teachers, and they are to honor women geographers and teachers of geography thruout the country.

The Elementary Geographic Education Prize is awarded this year "to the writer of the best article on Techniques in Teaching Geography in the Elementary School Level." This prize is awarded for an article entitled "City Studies in the Upper Elementary Grades" published in the November, 1948 issue of the JOURNAL OF GEOGRAPHY by Adelaide Blouch. Mrs. Blouch is an elementary teacher in Lakewood, Ohio.

NATIONAL COUNCIL AT WORK

INCREASING THE EFFECTIVENESS OF THE NATIONAL COUNCIL

Last month, the President's page discussed the need for a larger membership if the National Council is to increase its effectiveness. All present members were urged to get one new member in 1952! This month your attention is called to the need for an increased attendance at our annual meetings, and for more participation in these meetings by all members, if the Council is to be made more effective.

Since 1947, the National Council has broken away from the tradition of holding its annual meeting during the Christmas holidays at the same time and place as the Association of American Geographers. Many members of the Council are also members of the Association, and joint meetings made it impossible for these members to get the most out of both organizations.

In 1948, the Council met in Chicago with the National Council for the Social Studies. Both of these organizations have mutual objectives and share many points of view. Each can derive much from the other, and it is hoped that in the near future, the two organizations can again meet together.

In 1949, the National Council met alone for the first time. Its annual meeting was held in Cleveland, with Earl Shaw as president. In 1950, the Council met jointly with the Central Association of Science and Mathematics in Chicago. Of course, the relationship of Geography and Science is also close. This past year the Council again met alone in Pittsburgh. At all these meetings, the sessions have been well attended, but greater registration is to be desired in the future.

Plans for the 1952 meeting are going forward at a rapid pace. The meeting has been scheduled for August 6 and 7, in Washington, D.C., with headquarters at the Statler Hotel. Please note the change from the usual November dates. We are again to meet at the same time and place as the Association of American Geographers, just prior to the opening of the 17th Congress of the International Geographical Union.

Customarily, the programs of the annual meeting are built around some theme of importance in geography teaching. In 1952, the theme of the meeting will be: "Geographic Understandings Necessary for Economic, Political, and Social Survival and Progress of Free Peoples." The first general session will be devoted to papers presenting interpretations of this theme by leading authorities in geography. Other sessions have been planned to deal with methods of teaching geography in order to achieve the necessary understandings. A special address is being arranged for Thursday evening,

August 6, on the general topic. This address will be presented by an outstanding figure in the political and economic world. The outline for the program follows:

Thursday, August 6, 1952

9:30–11:00: First General Session. Topic: Economic, Political, Social Understandings Necessary for Survival and Progress.
11:00–12:00: Special Interest Group Meetings.
12:00– 1:30: State Coordinator's Luncheon.
1:45– 3:45: Second General Session. Topic: Some Suggestions for Teaching Necessary Geographic Understandings.
4:00– 5:00: Sixth General Assembly. Business Meeting.
8:00 : Third General Session. Special Address: "Survival and Progress of Free Peoples in the Modern World."

Friday, August 7, 1952

9:30–11:30: Fourth General Session. Topic: Field Work and Techniques in the Teaching of Geography—Elementary and Secondary School.
11:45– 1:15: Special Group Luncheons.
1:30– 5:00: Field Trip of Washington, D.C.
7:00 : NCGT-AAG Annual Banquet. Address: Prof. P. E. James.

It is hoped that because the meeting is scheduled for August 6 and 7, elementary and secondary teachers will make special efforts to attend the sessions. Be sure to be among those who will be wearing the special badge: "I secured a new member in 1952!"

CLYDE F. KOHN
Acting President

GEOGRAPHICAL PUBLICATIONS

S. S. Balzak, V. F. Vasyutin and Ya. G. Feigin. **Economic Geography of USSR** (translated from the Russian by Robert M. Hankin and Olga A. Titelbaum, American edition edited by Chauncy D. Harris, preface by John A. Morrison). The Macmillan Company, New York, 1949. xlv and 620 pages, 84 maps, 39 tables, and 14 appendices. $10.

A considerable body of literature is now available in English on the physical and human geography of the USSR. One of the most interesting of the recent books is this translation of a college-level textbook in economic geography written for Russian students just prior to World War II and now made available to American readers by the Russian Translation Project of the American Council of Learned Societies. In order to increase the usefulness of the book to teachers and students in the United States, the American translation has been supplemented with a special preface, numerous explanatory footnotes, several valuable indexes and, best of all, more than 80 excellent maps.

The general point of view of Soviet economic geography is put forth in the Introduction, which decries the "bourgeois geography" of such men as Hettner and Huntington for overstressing the role of the natural environment. Comrades Lenin and Stalin are given credit for reorganizing the economic-geographic environment in the USSR to fit the "program of building a communist society." Aside from the occasional lapses into political propaganda, the book presents a considerable body of well-organized factual information on the physical geography of the country, the changing nature of the Soviet economy, population distribution, industry, agriculture, and transport.

University of Oklahoma RALPH E. OLSON